

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

Claims 1 and 2 (Canceled).

3. (previously presented) A multi-media system comprising:
- a receiver for receiving a multi-program transport stream and a recording/reproducing device for recording/reproducing the multi-program transport stream, said receiver comprising:
 - a first signal processor for parsing program specific information (PSI) of the received multi-program transport stream and decoding a video signal and an audio signal of an intended program based on the parsed PSI;
 - an input device for entering program information of intended programs; and
 - a first digital interface for receiving program information of an intended program from said input device, generating a program information control command based on the program information of the intended program, and transmitting the multi-program transport stream provided by said first signal processor and the program information control command;
 - and
 - said recording/reproducing device comprising:
 - a second digital interface for receiving the program information control command and the multi-program transport stream from said first digital interface and decoding

the program information control command to obtain the program information of the intended program; and

a second signal processor for extracting the intended program from the multi-program transport stream received by said second digital interface, based on the program information, and recording the extracted program on recording media during a recording mode, and generating a reproduced transport stream which is provided to the second digital interface during a playback mode.

4. (original) The multi-media system of claim 3, wherein said input device is a remote controller.

5. (original) The multi-media system of claim 4, wherein said receiver is connected to one or more recording/reproducing devices using the digital interface and said recording/reproducing devices are controlled by said input device.

6. (previously presented) The multi-media system of claim 3, wherein said first digital interface generates the program information control command based on the parsed PSI.

7. (original) The multi-media system of claim 3, wherein said first and second digital interfaces are each an IEEE 1394 interface.

8. (previously presented) The multi-media system of claim 7, wherein said first digital interface transfers the transport stream as isochronous packets during an isochronous transfer mode, and transfers the program information control command as asynchronous packets during an asynchronous transfer mode using a control command set.

9. (original) The multi-media system of claim 8, wherein the control command set is an audio/video control command and transaction set (AV/C CTS).

10. (original) The multi-media system of claim 3, wherein said first digital interface transfers a multi-program transport stream isochronous packets in an isochronous transfer mode, and said second digital interface transfers a single program transport stream as isochronous packets in the isochronous transfer mode during a playback mode.

11. (original) The multi-media system of claim 3, wherein said first digital interface transfers a multi-program transport stream as isochronous packets in an isochronous transfer mode, and said second digital interface transfers a multi-program transport stream as isochronous packets in the isochronous transfer mode during a playback mode.

12. (original) The multi-media system of claim 3, wherein said first digital interface transfers a single program transport stream as isochronous packets in an isochronous transfer mode, and said second digital interface transfers a single program transport stream as isochronous packets in the isochronous transfer mode during a playback mode.

13. (previously presented) The multi-media system of claim 7, wherein said first digital interface comprises:

a first microcomputer including a transaction layer and a serial bus management layer, as software, for generating the program information control command based on the program information received from the input device, using a write transaction and a read transaction;

a first link layer for adding an asynchronous header to the program information control command received from the first microcomputer to convert the program information control command into serial data; and

a first physical layer for converting the serial data into an electrical signal.

14. (original) The multi-media system of claim 13, wherein said receiver further comprises a first extra header inserter/ remover for inserting an extra header into a transport stream being received, to form a data block packet for the IEEE 1394 transfer, and for removing the extra header inserted into a reproduced data block packet, provided by said first digital interface, for the IEEE 1394 transfer.

15. (previously presented) The multi-media system of claim 13, wherein said second digital interface comprises:

a second physical layer for converting the program information control command electrical signal, transferred from said first physical layer, into digital data;

a second link layer for converting the program information control command digital data into parallel data, and for removing an asynchronous header; and

a second microcomputer including a transaction layer and a serial bus management layer, as software, for recording the program information on a predetermined region of a recording medium by recognizing the program information control command during a recording mode, and for reading out the program information of the intended program recorded in the predetermined region during a playback mode.

16. (original) The multi-media system of claim 15, wherein said recording/reproducing device further comprises a second extra header inserter/remover for removing an extra header inserted into an data block packet provided by said second digital interface for a IEEE 1394 transfer, and for inserting an extra header into the transport stream reproduced from the second signal processor, to form the data block packet for the IEEE 1394 transfer.

17. (previously presented) The multi-media system of claim 3, wherein said first signal processor further comprises an on-screen graphic (OSG) generator for displaying the program guide information of a transport stream being received on an OSG display.

AMENDMENT UNDER 35 U.S.C. § 1.116
Application No. 08/939,442

18. (previously presented) The multi-media system of claim 17, wherein said OSG generator mixes the program guide information with a graphic signal of a background screen to be provided to said OSG display.

19. (previously presented) The multi-media system of claim 17, wherein said OSG generator mixes the program guide information with the decoded video signal to be provided to said OSG display.

20. (previously presented) The multi-media system of claim 3, wherein said first signal processor further comprises an on-screen display (OSD) generator for displaying the program guide information of a transport stream being received on an OSD display.

21. (previously presented) The multi-media system of claim 17, wherein the second signal processor does not parse the program guide information from a transport stream being received via the second digital interface.

Claims 22-25 (Canceled).

26. (previously presented) A method for transferring program information between a receiver with a digital interface for receiving a multi-program transport stream and a recording

device with a digital interface for recording the multi-program transport stream on a recording medium, wherein the multi-program transport stream is transferred between the digital interface of the receiver and the digital interface of the recording device, the method comprising the steps of:

- (a) providing program information of an intended program to be recorded;
- (b) transferring a command for inquiring as to whether to permit the recording of the program;
- (c) receiving a response for permitting the recording of the program from the recording device;
- (d) transferring a command for performing the recording of the program corresponding to the program information provided in the step (a); and
- (e) receiving a response for notifying of the permission of the recording of the program corresponding to the program information, from the recording device.

27. (previously presented) The method of claim 26, wherein the step (a) comprises the steps of:

- (a1) parsing the program guide information from the transport stream;
- (a2) displaying the parsed program guide information; and
- (a3) providing the program information of the intended program according to the displayed program guide information.

28. (previously presented) The method of claim 27, wherein step (a2) comprises displaying the parsed program guide information on an OSG display.

29. (previously presented) The method of claim 27, wherein step (a2) comprises displaying the parsed program guide information on an OSD display.

30. (previously presented) A method for receiving program information by a receiver with a digital interface for receiving a multi-program transport stream and a reproducing device with a digital interface for reproducing the multi-program transport stream recorded on a recording medium, wherein the multi-program transport stream is transferred between the digital interface of the reproducing device and the digital interface of the receiver, the method comprising the steps of:

(a) inquiring as to whether to permit the transfer of program information corresponding to the program recorded on the recording medium, during a playback mode;

(b) receiving a response for permitting the reproduction of the program from the reproducing device;

(c) transferring a command for requesting the program information of the program recorded on the recording medium; and

(d) transferring a command indicating the program information of the program recorded on the recording medium from the reproducing device.

Claims 31-45. (Canceled)

46. (Currently Amended) ~~The device of claim 38~~ A digital audio/video (A/V) device having a receiver for receiving a multi-program transport stream, wherein the receiver comprises:

an input device for inputting the program number of an intended program;

a signal processor for parsing program specific information (PSI) of the received multi-program transport stream and decoding a video signal and an audio signal of the intended program based on the parsed PSI; and

a digital interface for generating a program information control command based on program information input by a user, and transferring the multi-program transport stream output from the signal processor and the control command,

wherein the receiver is connected to at least one recording/reproducing device using the digital interface and the receiver and the recording/reproducing device are controlled by the input device, and

wherein the digital interface comprises:

a first microcomputer including a transaction layer and a serial bus management layer as software, for generating the program information control command based on the program information input via the input device, using a write transaction and a read transaction;

a first link layer for adding an asynchronous header to the control command generated by the first microcomputer to convert the control command into serial data; and

a first physical layer for converting the control command serial data into an electrical signal.

47. (previously presented) The device of claim 46, wherein the receiver further comprises a first extra header inserter/remover for inserting an extra header into a transport stream being received, to constitute a data block packet for the IEEE 1394 transfer, and for removing the extra header inserted into a reproduced data block packet for the IEEE 1394 transfer, input via the digital interface.

Claims 48-50 (Canceled).

51. (Currently Amended) ~~The device of claim 50~~ A digital audio/video (A/V) recording/reproducing device for recording/reproducing a multi-program transport stream transferred from a digital A/V device, the recording/reproducing device comprising:

a digital interface for decoding a program information command transferred from the digital A/V device and for receiving the multi-program transport stream being transferred from the digital A/V device; and

a signal processor for extracting an intended program from the multi-program transport stream received by the digital interface, based on the program information, and for recording the extracted result on recording media during a recording mode, and for outputting a reproduced transport stream to the digital interface during a playback mode.

wherein the digital interface comprises an IEEE 1394 interface, and

wherein the digital interface comprises:

a second physical layer for converting the program information command electrical signal, transferred from the first physical layer, into digital data;

a second link layer for converting the program information command digital data into parallel data, and for removing the asynchronous header; and

a second microcomputer including a transaction layer and a serial bus management layer as software, for recording the program information on a predetermined region of a recording medium by recognizing the program information command during a recording mode, and for reading out the program information recorded in the predetermined region during a playback mode.

52. (previously presented) The device of claim 51, wherein the recording/reproducing device further comprises a second extra header inserter/remover for removing an extra header inserted into the data block packet for the IEEE 1394 transfer, being received via the digital interface, and for inserting an extra header into the transport stream reproduced from the second signal processor, to constitute the data block packet for the IEEE 1394 transfer.

Claims 53-61 (Canceled).

62. (previously presented) A method for transferring program information between a receiver with a digital interface for receiving a multi-program transport stream and a recording and reproducing device with a digital interface for recording the multi-program transport stream on a recording medium, the method comprising the steps of:

- (a) receiving program information of an intended program to be recorded or reproduced;
- (b) transferring a command for inquiring as to whether to permit the recording or reproducing of the program;
- (c) receiving a response for permitting the recording of the program from the recording and reproducing device; and
- (d) transferring a command for performing the recording of the program corresponding to the program information input in the step (a).

63. (previously presented) The method of claim 62, further comprising the step of (e) receiving a response for notifying of the permission of the recording of the program corresponding to the program information, from the recording and reproducing device.

64. (previously presented) The method of claim 62, wherein the step (a) comprises the steps of:

- (a1) parsing the program guide information from the transport stream;
- (a2) displaying the parsed program guide information; and

(a3) inputting the program information of the intended program according to the displayed program guide information.

65. (previously presented) The method of claim 64, wherein in the step (a2), the parsed program guide information is displayed on an OSG display.

66. (previously presented) The method of claim 64, wherein in the step (a2), the parsed program guide information is displayed on an OSD display.

67. (previously presented) A method for receiving program information by a receiver with a digital interface for receiving a multi-program transport stream and a reproducing device with a digital interface for reproducing the multi-program transport stream of the program recorded on a recording medium, the method comprising the steps of:

(a) inquiring as to whether to permit the transfer of program information corresponding to the program recorded on the recording medium, during a playback mode;

(b) receiving a response for permitting the reproduction of the program from the reproducing device;

(c) transferring a command for requesting the program information of the program recorded on the recording medium; and

(d) receiving the program information of the program recorded on the recording medium from the reproducing device.

Claims 68-71 (Canceled).

72. (previously presented) The method of claim 26, wherein the digital interface of the receiver and the digital interface of the recording/reproducing device are linked by an IEEE 1394 serial bus cable.

73. (previously presented) The method of claim 30, wherein the digital interface of the receiver and the digital interface of the recording/reproducing device are linked by an IEEE 1394 serial bus cable.

Claims 74-78 (Canceled).

79. (previously presented) The method of claim 62, wherein the digital interface of the receiver and the digital interface of the recording/reproducing device are linked by an IEEE 1394 serial bus cable.

80. (previously presented) The method of claim 67, wherein the digital interface of the receiver and the digital interface of the recording/reproducing device are linked by an IEEE 1394 serial bus cable.

AMENDMENT UNDER 35 U.S.C. § 1.116
Application No. 08/939,442

81. (Canceled).